ABSTRACT

A semiconductor device includes: a semiconductor substrate of a first conductivity type; a drift layer of a first conductivity type formed on a first main surface of the semiconductor substrate, a surface of the drift layer having a first area and a second area which is positioned on an outer periphery of the first area; a cell portion which is formed in the first area of the drift layer and includes a first base layer of a second conductivity type selectively formed in a surface layer of the first area, a source layer of a first conductivity type selectively formed in a surface layer of the first base layer, a first metallic compound which is formed on the surface layer of the first base layer and a surface layer of the source layer in common, and a control electrode which is formed in the first base layer and the source layer via a first insulating film and has a second metallic compound formed on a top surface thereof; a terminating portion which is formed in the second area of the drift layer, alleviates an electric field to maintain a breakdown voltage by extending a depletion layer, and includes a second base layer of a second conductivity type selectively formed in a surface layer in the second area of the drift layer, an impurity diffused layer of a second conductivity type formed in a surface layer of the second base layer, and a third metallic compound which is provided to a surface layer of the impurity diffused layer, an end surface thereof on the terminating portion side being positioned on the cell portion side away from an end surface of the impurity diffused layer on the terminating portion side; a first main electrode formed so as to be in contact with the first metallic compound and the third metallic compound in common; and a second main electrode formed on a second main surface opposite to the first main surface of the semiconductor substrate.